

CLAIMS

Saturday, February 09, 2002

- 1. I claim that the Thermangel will decrease the body temperature to a normal range.**

The Thermangel would be suited for thermocorrecting anyone suffering from a temperature disturbance. It has the ability to heat or cool the human body from .75 degrees to 1.5 degrees per hour. The patient in a hyperthermic state, usually has an accompanying tachycardia or increased heart rate which could further damage or worsen their clinical condition. This device has the ability to correct the temperature and stabilize the patient's vital signs. This device would also drastically cut the expense of health care especially for the elderly who are very prone to infection, especially if they are in a nursing home or chronically sick. It would decrease the time spent in the intensive care unit setting, decrease the use of medicines to control the temperature disturbance as well increase the likelihood of recovery of the patient. This unit will not cure the underlying cause of the thermoregulatory problem but it will make treatment of the disorder or illness much easier, quicker, and less costly.

- 2. I claim that the Thermangel would be ideal for the enhancing the surgical setting.**

This unit is also ideal for the surgical setting. There is a condition known as Malignant Hyperthermia, which is has a very high mortality rate associated with it. It is caused by an abnormal reaction to anesthetic medicines. The current treatment is to cover the patient in ice totally. However, if you are performing an open heart operation and this condition sets in, the chances of surviving are at best slim. This would allow for constant monitoring during the surgical procedure and would alert the medical personnel of a suspected reaction and increase the chances of saving that patient's life. Malignant Hyperthermia

can cause a patient's temperature to climb to 110 degrees fahrenheit within a matter of several minutes. If the medical personnel were able to see the rise in the temperature early enough, the medicine that is causing the disturbance can be discontinued and appropriate treatment can begin immediately.

4. I claim that the Thermangel will be useful in treating other illnesses.

This unit would also be useful for therapeutic hyperthermia. This is currently being researched as an adjunctive therapy for cancer patients. In other words, they heat the body to destroy the cancer. Therapeutic hyperthermia combined with radiation therapy has an efficacy rate of 67% versus 33% with radiation alone. It is also helpful in reducing alopecia, or hair loss associated with cancer treatments.

5. I claim that the Thermangel will help manage pediatric illness more effectively.

It would also be useful for infants and children as their temperatures will climb much much higher and much faster than an adult. The problem of pediatric fevers accounts for many visits to the emergency room. Instead of a parent waking a child to check a fever, they would be able to monitor it without even touching the child. Children are also prone to seizures as a result of prolonged hyperthermia. This accounts for brain damage and permanent impairments to a child, simply from a fever out of control.

6. I claim that the Thermangel will help treat exertional conditions found in exercise.

This unit would also be helpful for treating athletes following exertion to reduce the strain on the body. Heat exhaustion is a common ailment for athletes. They have previously

used cooling tubs, which are uncomfortable at best and expensive as well.

7. I claim that the Thermangel will be helpful in resuscitation procedures.

In addition, current research in cardiac resuscitation utilizing cooling strategies has shown to improve the outcomes of high mortality situations.